

AMSTEC

The Alabama Math, Science and Technology
Education Coalition

Partnering to Support Systemic Math, Science
and Technology (STEM) Education Reform
in Alabama

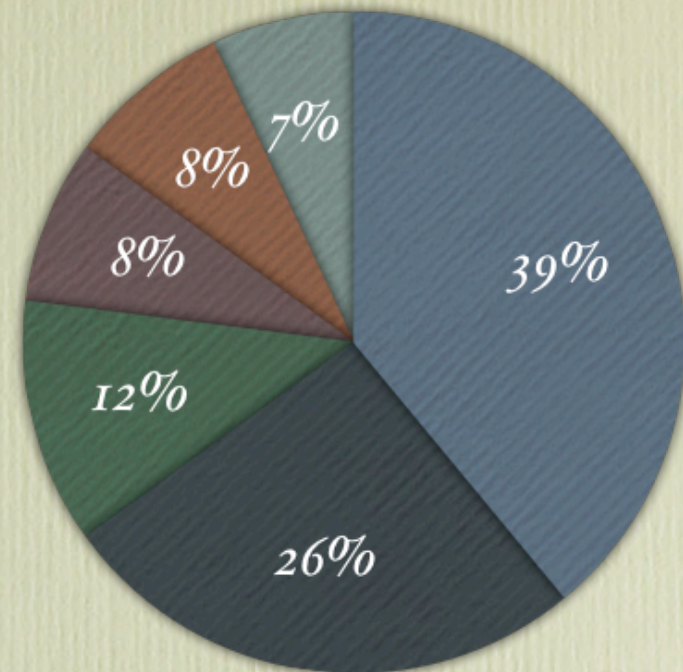
AMSTEC

- Roots in the NASA's Linking Leaders Program
- Non-profit formed in 1998
- One of 35 state-based education coalitions (NASSMC)
- Mission – to facilitate communication among its stake-holder/members

Education - 68%

Business - 20%

Public Policy - 12%



- Educators
- Educational Administrators
- Community Organizations
- Business & Industry
- Public Policy Makers
- STEM Professionals

AMSTEC Executive Director Housed at NSSTC

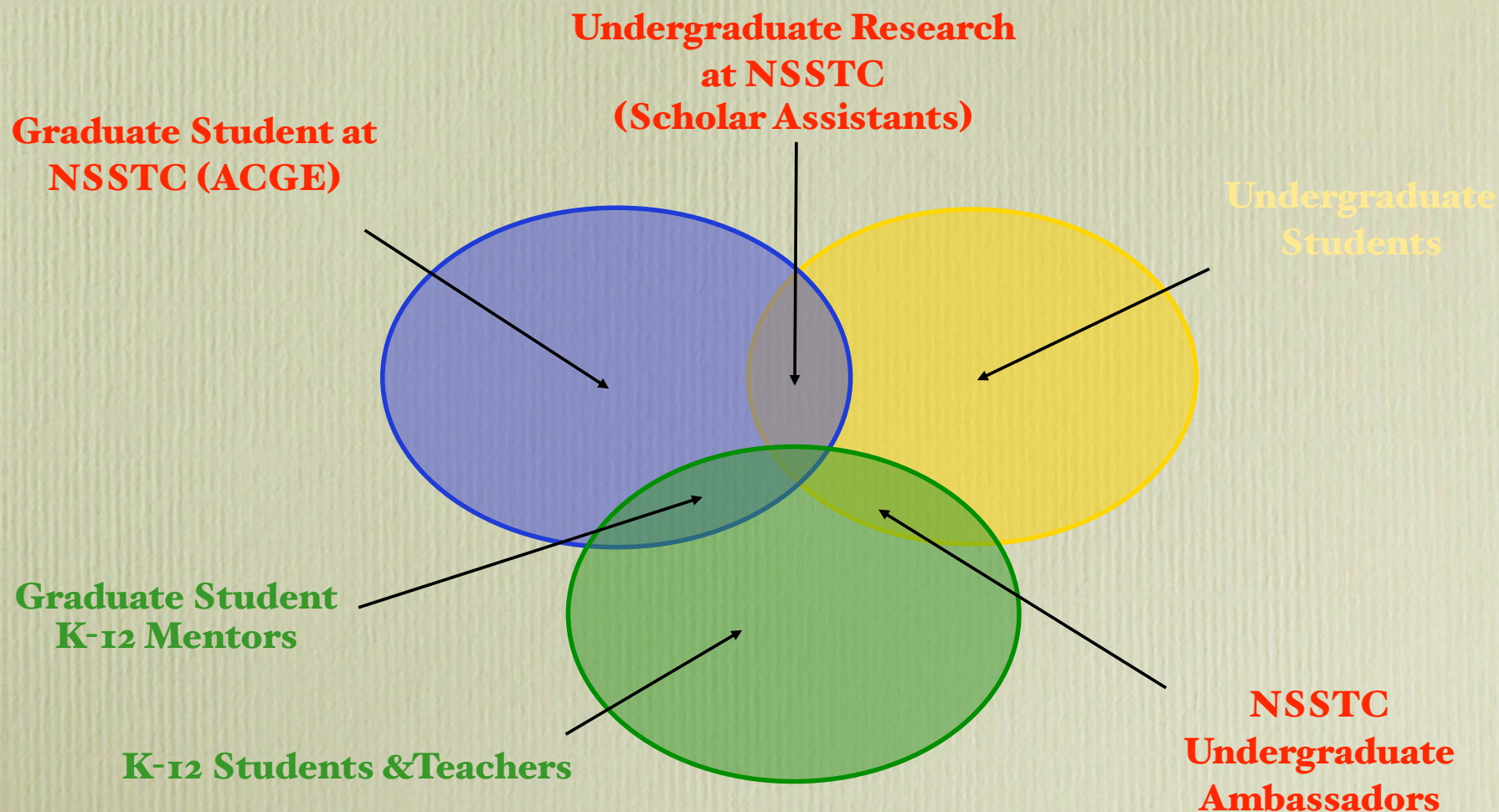
- **Electronic Classrooms (2,200 sq. ft)**
- **Conference Rooms (19,700 sq. ft)**
- **Laboratory Space (55,000 sq. ft.)**
- **Portable video-conferencing capabilities**
- **Approximately 400 scientists and engineers with special technical expertise & teaching skills**
- **A virtual facility comprised of the SSTA members - the 7 PhD granting institutions of Alabama**
- **MSFC Education Programs Department - collocated and in daily collaboration with NSSTC EPO staff**



320 Sparkman Drive Huntsville, AL



Education & Public Outreach at the NSSTC: An Integrated Approach



NSSTC Mission & Vision

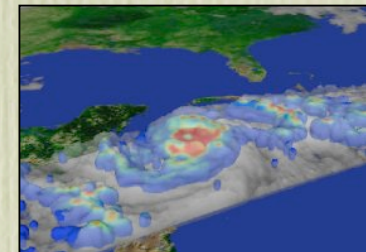
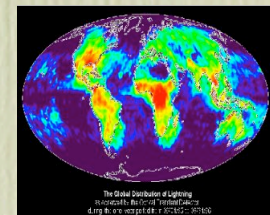
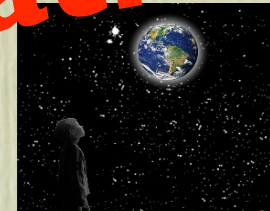
is Education !

MISSION:

- To conduct and **communicate** research and development critical to NASA's mission in support of the national interest.
- To **educate** the next generation of scientists and engineers for space-based research.
- To use the platform of space to better understand our Earth and space environment and **increase our knowledge** of materials and processes.

VISION:

- To become an exemplary national science and technology environment for the conduct and communication of cutting-edge space research, **education**, and development in support of NASA's mission.
- To serve the national interest by **implementing best business practices** using multidisciplinary teams assembled from the university, government, and private sectors to perform the work.
- To leverage the content and conduct of NSSTC activities **to enhance university and K-12 educational missions**.



NSSTC Examples



- GLOBE
- AMSTI
- SHARP
- USRP
- GSRP



**What has AMSTEC done to
address Alabama's needs in
STEM education?**

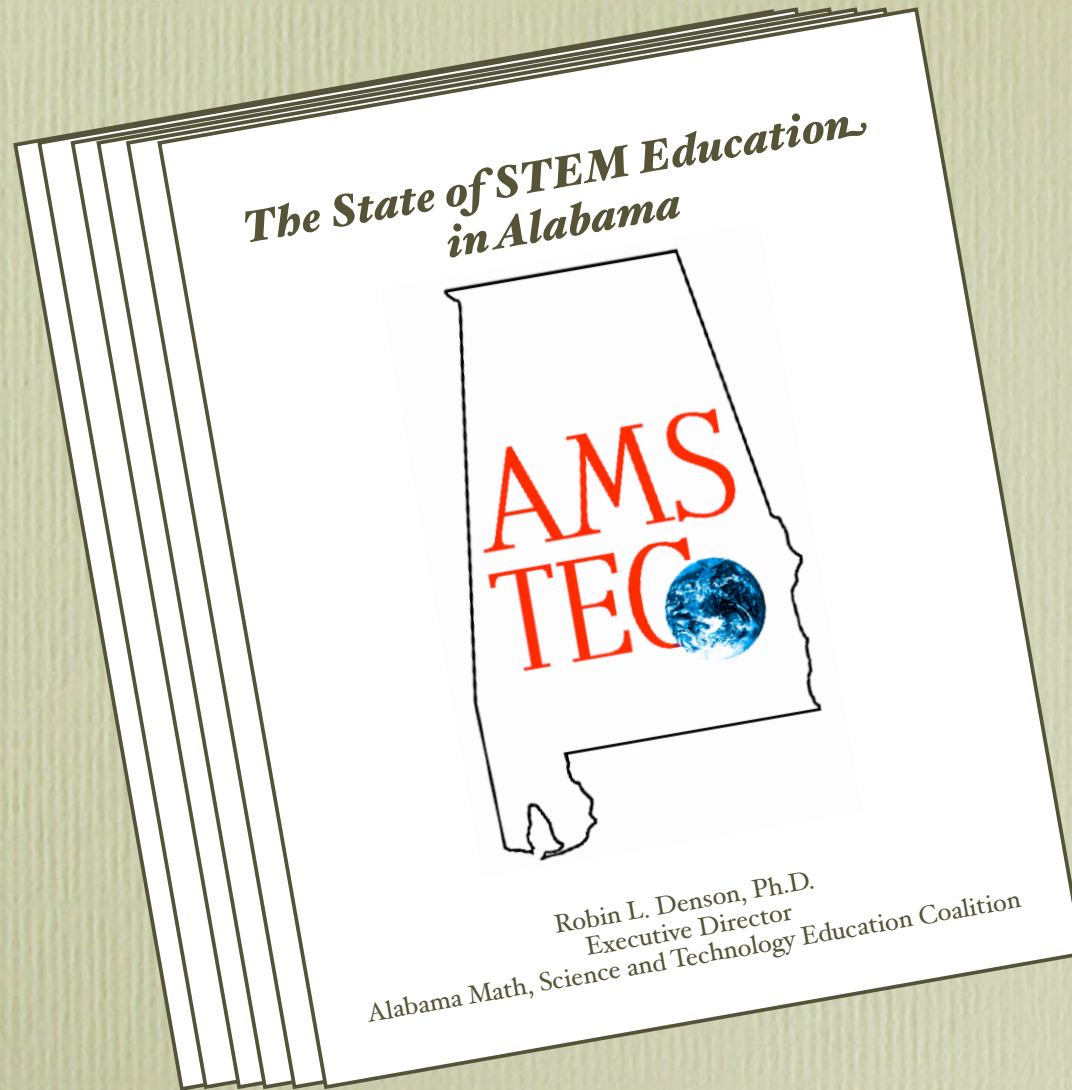
Among other things....

- Provide communication among stake-holders
 - “State of STEM Education in Alabama”
- Partner with STEM Education reform leaders to assist with SDE AMSTI implementation

LASER - leadership assistance....

NASA/University relations - NSSTC

SSTA network and Space Grant Consortium



**Alabama has
something to
talk about:**
Setting the stage
for discussion
with policy-
makers and
business
communities



**AMSTEC is
working with
LASER to build
partnerships
and industrial
support for
these excellent
STEM
education
practices.**

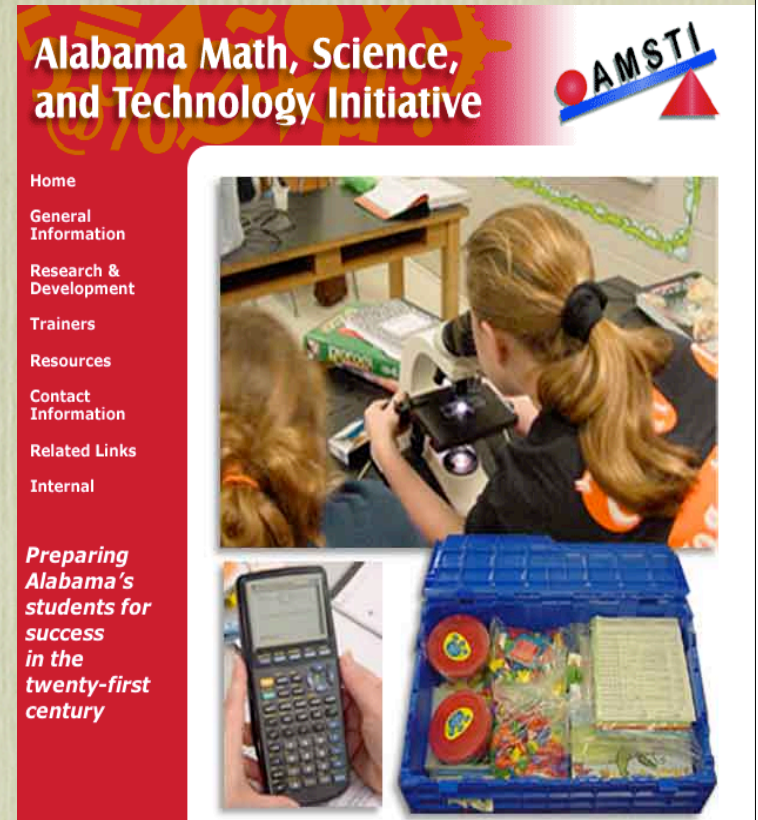
Direct Linkages with other NASA Programs

- Use of GLOBE protocols as a menu linked to Alabama Course of Study for Science and the NSF modules used in AMSTI
- GLOBE is the technology “glue” for AMSTI
- Heavy emphasis on mentoring and follow-up in the classroom
- Professional Development – changing the culture of the teacher/school, not just the teacher quality



AMSTI

- Two years of research and design in the development
- Implemented by the Alabama Department of Education in 2002
- Created MASTER Sites
 - Two sites now running, a third in initial start-up, total of eleven proposed across Alabama
- Preliminary results are promising!



www.amsti.org

**How do we propose to continue to
implement systemic STEM education
reform in Alabama?**

Continue to support SDE in their Education Reform Initiatives

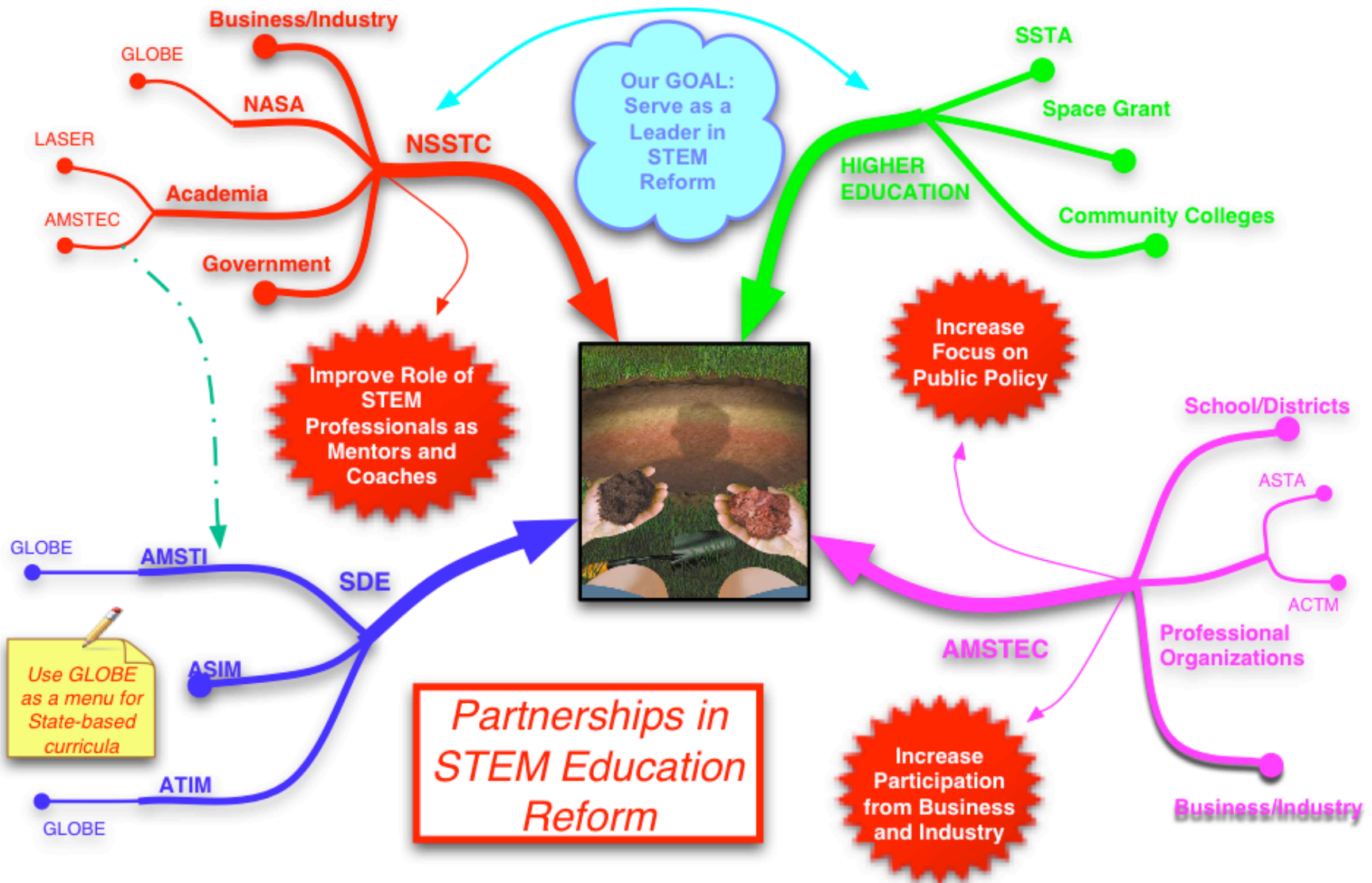
AMSTI

- Build on NCLB requirements
- Offer science content in literacy (ARI)
- LAMST (in conjunction with AL Leadership Academy and LASER)

Workforce Development

- SDE Career Technical Division
- Also linked to the WAMP Initiative (Tenn) and the new Alabama Office of WFD

Build on our strengths to create a K-20 implementation network.....a STEMnet !



Alabama's STEM_{net}

Current Challenges for STEM Education Reform

- **Alabama is ranked 49th in education funding nationally!**

D+ in funding with a B- in results (NEA) and the AMSTI model is a good one!

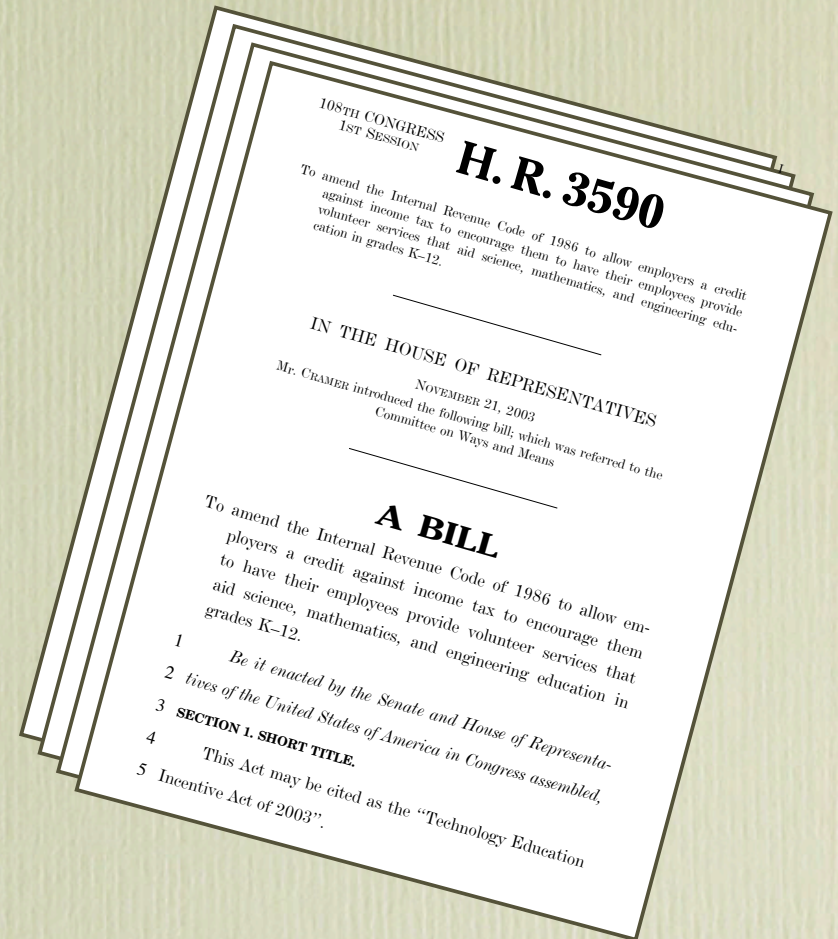
Funding for AMSTI MASTER sites not secured

- **We are not alone and money isn't everything!**

North Carolina had similar issues but is now a national model for closing the achievement gap

Alabama has average challenges with above average solutions

- STEM net - the system
- AMSTI - the model
- Proposed legislation



The Future of AMSTEC's Partnerships

- **Involve Industry: Improve Role of Business, Industry & Scientists as mentors and coaches**

Project SISTER : Scientists -in-Service to Education Reform

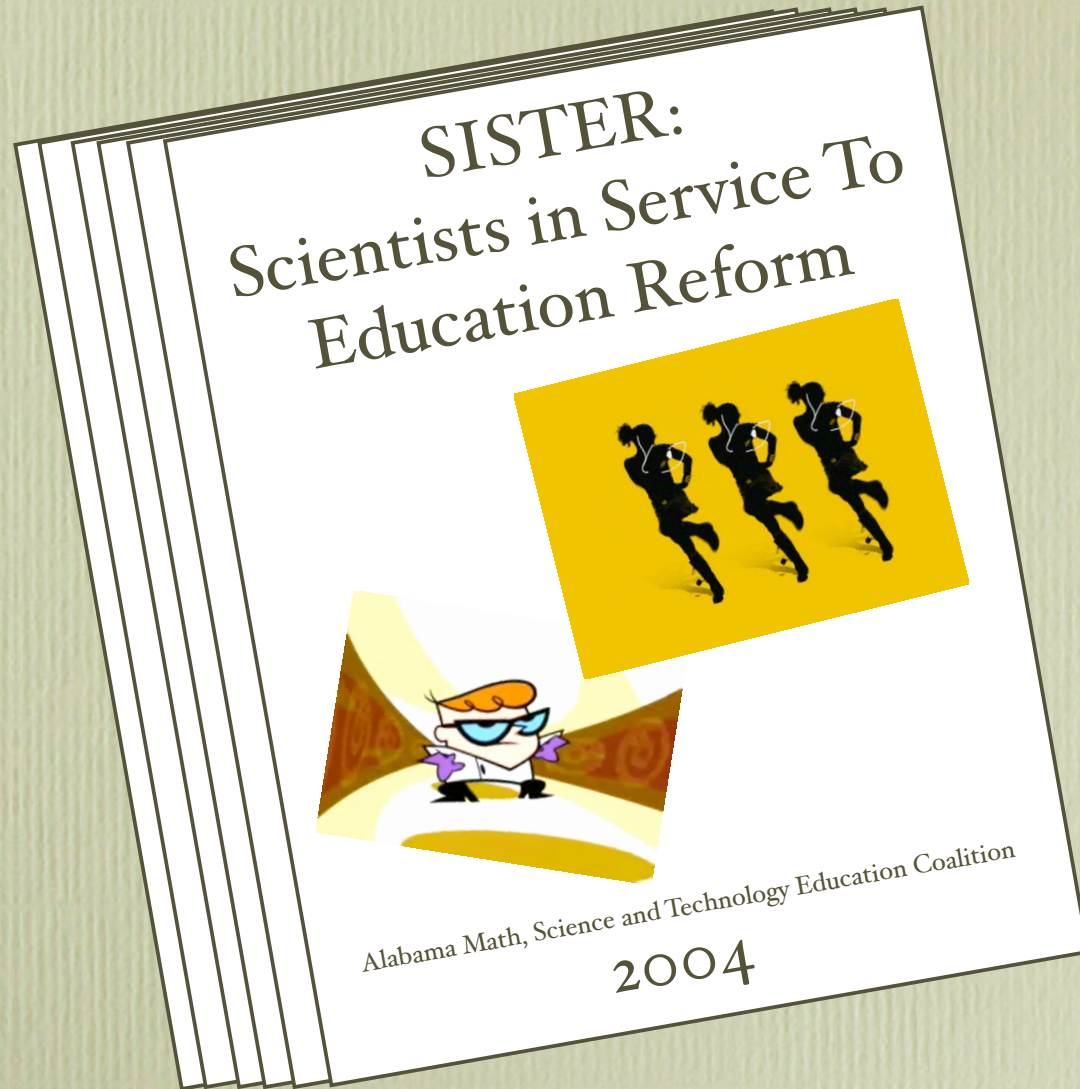
Elder Space Grant : with NSSTC/ASGC

- **Increase Community/Parent/School Partnerships**

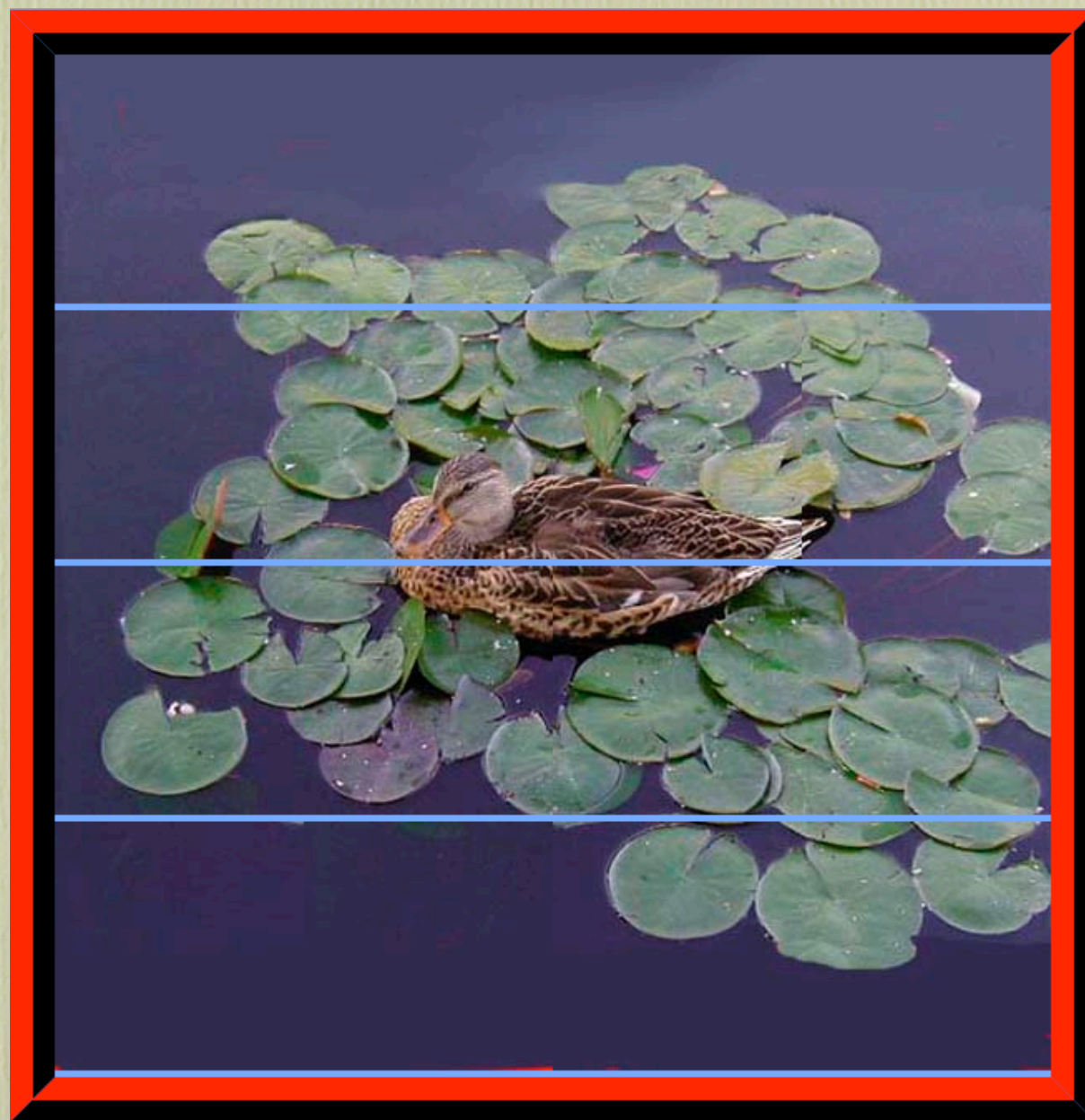
SEMAA : NASA funded program for underserved communities

FANS : Rutgers University

Center on School, Family & Community Partnerships:
Johns Hopkins University



A Conceptual
Plan for
Implementing
Corporate
Mentors and
Coaches into K-8
Mathematics and
Science
Education in
North Alabama



AMSTEC

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